AMENDMENTS TO THE SPECIFICATION

Please replace Paragraphs [0035] - [0037], [0040], and [0049] with the following paragraphs rewritten in amendment format:

[0035] As presently preferred, the spacers 64 in the first array are circular disks having a diameter of approximately 0.375" which are disposed on the first sheet 66 in a nested array such that the center of spacers 64 in adjacent rows/columns are offset with respect to one another. The orifice 72 formed through spacer 64 is about 0.050" (50 mils). Spacers 64 are distributed on first sheet 66 at a density of about 6.25 spacers per square inch. As presently preferred, the pillars 68 in the second array are also circular disks having a diameter of approximately 0.125" which are disposed on the first sheet 66 such that a subset of four pillars 68 are equiangularly superposed over at least a portion of the area defined by [[a]] <u>the</u> subjacent spacer 64. Pillars 68 are distributed on first sheet 66 in a density of about 25 pillars per square inch.

[0036] While the above-described configuration of spacers 64 and pillars 68 are presently preferred, one skilled in the art will recognize that the size, shape, density, distribution and location of the spacers and pillars within the fuel cell may be selected in accordance with the specification and operational parameters of a given fuel cell application. For example, as illustrated in FIG. 5A, spacers 64' are configured as nested hexagons with an orifice 72' formed therethrough. A set of pillars 68' are configured as triangles with a subset of six triangles superposed over a portion of the area defined by [[a]] <u>the</u> subjacent spacer 64'. In another example illustrated in FIG. 5B, spacers 64" are configured as nested squares with an orifice 72" formed therethrough.

A set of pillars 68" are configured as squares with a subset of four squares superposed over an area defined by multiple subjacent spacers 64". The terms superposed and subjacent are used in relative terms herein, and one skilled in the art should recognize that the order of adjacent components within the fuel cell [[60]] <u>10</u> may be inverted.

[0037] With reference again to FIGS. 2, 3A-3B and 4A-4D and FIG. 6A-6B, the separator plate 60 will be described in greater detail. An inboard major face 84 of the first sheet 66 and an inboard major face 88 of the second sheet 76 define an inlet manifold 90 therebetween. Fluid communication between the inlet manifold 90 and the inlet header 80 is established by a plurality of runners 92 formed in <u>a</u> frame 122. <u>The frame 122 may be interposed between the first sheet 66 and the second sheet 76. For example, the frame 122 may be laminated between the first sheet 66 and the second sheet 76 and may circumscribe the pillars 68.</u> The height of the inlet manifold 90 is defined by the height of the pillars 68. An exhaust manifold 100 is defined between an outer face 104 of the first sheet 66 and an adjacent face 108 of the diffusion medium 30. In this manner, the inlet manifold 90 and the exhaust manifold 100 function as a plenum throughout which the pressure is substantially constant, i.e., very little pressure differential within the manifold areas. Fluid communication from the exhaust manifold 100 to the outside of the stack is achieved by direct connection of this manifold to the atmosphere. In other words, manifold 100 is open to atmosphere all along its perimeter. The height of the exhaust manifold 100 is defined by the height of the disks 64. As presently preferred, the inlet header 80 is formed along one margin of the separator plate 60. No exhaust header, other than the direct connection of the manifold 100 to the atmosphere exists. However, one skilled in the art will recognize that the inlet header

and exhaust header may be configured in any suitable manner to provide fluid communication of the reactant gas into and out of the flow field.

[0040] With continued reference to FIGS. 4B-4D and 6A-6B, the operation of the separator plate 60 will be described. The flow path of the reactant gas is characterized in three distinct flow segments namely, a delivery leg (D), an active area leg (A) and an exhaust leg (E). During the delivery leg (D), the reactant gas enters the separator plate 60 at the inlet header 80 and flows through the inlet manifold 90. The reactant gas flows relatively freely (i.e., with no significant pressure drop and no predetermined path) around the respective pillars 68 and is contained within a lateral boundary (FIG. 3) in the inlet manifold 90 defined by ~~the~~ an interior edge 120 of [[a]] the frame 122. From the inlet manifold 90, the reactant gas is directed through the respective orifices 72 in the disks 64 and the first sheet 66.

[0049] Those skilled in the art can now appreciate from the foregoing description that the broad teachings of the present invention can be implemented in a variety of forms. For example, the number of spacers 64 shown on the separator plate 60 establishes the number of parallel flow paths and may be configured with fewer or greater disks. The geometrical configuration of the spacers 64 may alternatively comprise other shapes such as rectangles, triangles or trapezoids for example. Moreover, the pillars 68 defining the height of the inlet manifold 90 may comprise alternate shapes as described above. In addition, while it is shown that four pillars 68 compliment [[a]] the single spacer 64, other ratios may similarly be employed.

Therefore, while this invention has been described in connection with particular examples thereof, the true scope of the invention should not be so limited since other modifications will become apparent to the skilled practitioner upon a study of the drawings, the specification and the following claims.